

4) [478 Words]: Several facets of 21st century culture are to blame for current environmental problems. Among these are methods of advertising. Societies are increasingly bombarded by messages promoting consumption. This is evident in large metropolises, the side of trucks on motorways, and even on the clothing that we wear. In a time when fortune 500 companies spend in the neighborhood of 5 – 10% of their projected income on advertising, it is difficult to escape company logos and explicit suggestions to purchase the newest widgets.

You can likely recall from memory the logos of Tyson Foods, Walmart, Apple Computers, and even the font used to print The New York Times logo. This certainly would suggest that advertising is effective, but you may be asking why that is a problem. How can the increased propensity to recognize company media lead to sustainability problems? The answer lies in Western culture, and how advertising is used as a tool for the spreading of its ideology.

Before the advent of our modern agrarian society the idea of a growth economy was unheard of. This is no longer true. In fact, nearly all governments, businesses, and individuals measure success by increasing numbers, be it sales, GDP, profit margin, population, or per annum salary. This idea is, at its very core, unsustainable. Growth cannot exist indefinitely, in nature or in our culture. Eventually, if not already, a trade-off between our limited resources and quality of life will force us to think about this trend of consumption.

It is advertising that promotes this culture of consumption in countries such as the U.S. Every time we see that billboard promoting Budweiser, or the pop-up telling us we need a new car, we are being mentally ushered to the checkout lines. The repetitive exposure to these brands and the attempt at associating brands with positive images and memories plays at our instincts. The advertiser has become a disease, sucking the life from us, forcing our synapses open and closed at will. This repeat exposure has resulted in a less scientific form of mind control, where the customer develops a loyalty beyond reason.

If this ideology exists, why don't others use the same principles for good, to the effect of reducing human consumption? For one, this is unethical practice. Whether used with good intention or not, this remains a form of coercion. More importantly however, employing such unethical practices deemphasizes the importance of the message, that consumerism is not sustainable and must be reversed. This form of message delivery will only end up under similar scrutiny if employed for good. It is therefore necessary to seek out delivery methods which do not prey on the subconscious, but instead provide polarizing facts that people can believe in, information that will inspire people to effect change in their own lives, not simply speculate about how to affect change in the lives of others.

5) [476 Words]: Paradoxically, the forms of communication which are intended to bring us closer together have encouraged our further separation. Specifically internet communication, texting, and modern media create an environment in which social animals have difficulty maintaining meaningful relationships.

With the advent of social media outlets including Twitter, LinkedIn, and Facebook, the process of developing relationships is becoming obsolete. If we want to stay informed we follow someone or like

their page. Their updates appear at the top of our Twitter and Facebook feeds as soon as they post, and we don't have to go looking for the information anymore. Gone are the days of talking with others about global issues. We no longer need to sit down over a cup of coffee and share our opinions: If we want to know what someone thinks we spend all of 60 seconds reading the last few updates to their profiles. It's easy to think of this as a good thing. But what about all of the information we don't want? Worse still, what about the misinformation? It has become alarmingly easy to get wrapped up in the stories of "Australia's 20 Most Notorious Gangsters" and more difficult to find "The English Cities Which Breach Air Pollution Safety Guidelines." Modern communicative technologies have failed us in some ways. Is that all there is though? Is the internet and constant connectivity purely an evil?

It is easy to think of the internet as a sidetrack. Yet most of us consume our quality media via the internet. This is evidenced in numbers of daily newspaper circulations. If we are insisting on an electronic subscription then perhaps it behooves us to focus on perfecting this source of media. While electronic news allows for concise interpretations of current events it can also provide the framework for productive information sharing. Take for example MIT's opencourseware, a service dedicated to sharing world-class education materials at no cost. This is surely a great benefit of the electronic age, one that has the potential to affect great change in the sustainability world. The proof of concept exists, now it is time to provide the incentive.

We have been sold a bill of goods, taught that a university education is the way out of poverty. Now everyone has a degree, and the novelty of a higher-level education has worn off. People are now educated, but dispassionate: We have been told to suppress our desire for personal happiness, that a college degree promises a better job with more earning potential, which is what everyone wants, right? No. It is now time for the tool of social media to encourage us to focus on what matters, our personal happiness and well-being. The internet must be at the forefront of inspiration for people to find work they believe in and to encourage the individual to be a part of an empathic civilization.

8) [426 Words]: One area where I fear the world lacks knowledge is how food is grown. There is plenty of sensational footage showing the harsh living conditions of chickens and the prevalence of Monsanto and ADM as corporate behemoths. The film that is missing is one that shows how traditional methods of farming are still effective at growing (calorically and biologically) healthy foods. Moreover, such a film would showcase how fun it is to grow your own food and how mentally stimulating it can be.

Because younger generations define future norms and culture it is imperative that such a film reaches this demographic in an attempt to raise self-perpetuating interest in this field. Such a film would need to be geared toward middle school students. They have enough science education that basic concepts won't be challenging, but advanced practices have the potential to pique interest.

In order to interest middle school students the film should be narrated by, and include the viewpoints of, people in their mid-twenties and early thirties. Far too much vocal power is given to people much older than this, people who find it difficult to relate to a young audience. These individuals should be

approximately 50% male and 50% female, include a mix of nationalities, and include degreed and non-degreed people.

In an effort to promote trust in the information, it is imperative that the people to be interviewed have devoted their lives to organic farming. These individuals must have an infectious interest in the topic, such that students will remain engaged and interested.

As far as content of the movie, a brief introduction should be given showcasing why it is imperative to focus on small-scale community farming in the 21st century. Some ominous footage highlighting the gross power of ADM and Cargill may be incorporated, but an excessive amount is not desirable. The idea of such footage would be to encourage students to take an interest in their food. The majority of the film material should focus on organic farming practices in the 21st century. This may include how irrigation works, how plants are germinated in hot-houses for early-season planting, or how to determine when a crop is ready for picking. Specific to organic farming, natural ways of fertilizing and controlling pests could be incorporated.

Such a film will have inherent bias, namely that big agribusiness is responsible for much harm to society, including a lack of nutrition. The film should showcase scientific evidence supporting this claim, with the ultimate goal of interesting young adults to question the farming practices of their food.

9) [337 Words]: Regardless of the evidence to the contrary, many people are skeptical about climate change and sustainability problems in general. This is not necessarily indicative of lacking intellect, but perhaps the failure of the science community to successfully reach a plethora of audiences.

One such example was offered by Dan Vergano, writer for USA Today. Mr Vergano writes about the findings of Michael Jones, a Harvard political scientist. Jones' research showed that people are far more receptive to scientific information pertaining to sustainability problems if it is delivered in the form of a narrative. Additionally, Mr. Jones found that the hero of the story had a tremendous impact on how well received the narrative was. For example, "Libertarians might better listen to the facts about climate change if business is presented as the hero that can save the day from ill effects of increasing temperatures." AS Mr. Jones states, "scientists don't suddenly need to invent parables to reach the public, they just need to do more than thrown out the facts and hope that will do all the work."

Catherine Cooney also offers interesting insight regarding mistrusting sustainability information. Again, Ms. Cooney highlights the idea that the information exists, but isn't being received by policymakers and the populous. She cites a report, *Advancing the Science of Climate Change*, which "urges that climate change science incorporate disciplinary and interdisciplinary research across the physical, social, biological, health, and engineering sciences." Ms. Cooney stresses that such an "integrated approach should help put the science into perspective not just for a struggling public but also for policymakers."

In both articles the authors acknowledge the presence of appropriate data pertaining to climate change. They also suggest that there is a disconnect between the egg-head scientists and the laypeople. Scientific evidence is not being presented in a literarily interesting way. The researchers, policymakers, and populous should at least be able to find solace in one thing: scientists are asking why people are uninterested, and policymakers and people are asking what the scientists are saying.

10) [402 Words]: Sustainability problems and solutions are widely recognized today, however more progress can be made in this area. The U.S. government is a part of the matrix of factors making sustainability challenging, yet has the potential to help further environmental efforts.

In order to help in the transparency of sustainability issues the U.S. government should begin collecting research in one easy-to-access place or website. While the government currently monetarily supports much research, and many governmental agencies write reports for individual referencing, it can be difficult at the best of times to find these research reports. This transparency in research is a necessary part of a literate population.

Similarly, the U.S. government should be reimagined in such a way as to create a more productive system for the 21st century. For decades it seems that politicians have been fighting for the title of 'who is right' instead of focusing on the needs of the citizens. This systems has allowed us to fall behind other developed nations, allowing continuations of debates such as a 'woman's right to choose' and whether or not making firearms illegal is unconstitutional, when these are issues that should have already been resolved.

The government must make a strong effort to ensure the separation of church and state. While this is one of the core tenants of American government today, it often seems that religious zealots are able to guide the hand of legislators and judges to pass legislation and come to verdicts which are in violation of the separation of church and state.

One of the most deplorable practices is the corporate sponsorship of government officials. In order for sustainability to progress effectively in the United States the practice of big business underwriting political campaigns must cease to exist.

The size and might of the U.S. military should be drastically cut. The military is one of the U.S.'s most horrendous contributions to sustainability efforts. Furthermore, the self-perpetuating nature of the U.S. military means resource consumption is only increasing due to this arena: there is a constant push to deliver newer, better, faster, stronger, lighter products for the military, only enhancing American consumer culture.

Education should be reimagined in the U.S. Americans are not being educated at a level even comparable to other leading countries, and some third-world nations even surpass the U.S. in certain aspects of education. Improved education means a society which is more ready to tackle sustainability problems.

12) [528 Words]: In an age where public recognition of, and direct action regarding sustainability problems is of increasing importance, there is much that can be done to foster a productive problem-solving environment. These changes don't necessarily need to be affected in one particular facet of society, and in fact would likely be far more productive if they were dispersed through a variety of disciplines. Some potential advancements may be:

1. Passing legislation that makes it illegal to withhold scientific information from the public. This could potentially help garner faith in mainstream media, while simultaneously forcing mainstream media to be accountable for quality and informative reporting.
2. Encourage, beginning at the elementary level, the study of foreign language, foreign history, and foreign policy. This will help provide Americans with far more global awareness in their opinion than what we currently exhibit. It seems as if Americans believe solutions to global sustainability problems can only come from the U.S. Providing such global proficiency at a young age could encourage young adults to look everywhere for solutions to challenging problems.
3. Encourage the study of classical philosophy and literature. It is widely believed that past actions are the best indicators of future behaviors. In reading literature of recognized cultural value young people can hope to feel more connected with the plights of a past age. In doing so, this may bring to light innovative solutions to complex 21st century problems.
4. Promoting government-funded research may garner increased faith in the scientific data which is shared. Given that so many people distrust existing research, having that research come from a supposedly neutral body may help change any associated stigma.
5. Educational bodies must focus on providing proper nutrition to students. It is widely known that properly balanced nutrition is requisite for information comprehension and retention. Educators can't expect students to learn on empty stomachs, or on stomachs full of stabilizers and binders.
6. Media should focus on presenting increasing amounts of sustainability-related news, and doing so in a productive manner. Sustainability problems have largely been ignored by the mainstream, except when the material is controversial or sensationalized. Media should focus on more of the status quo sustainability topics which don't discredit the importance of such study.
7. Legislation should be enacted which makes the presence of businesses over a certain size, in certain industries illegal. For example, big business pertaining to agriculture is unproductive.
8. Early music education is important in order to foster creativity and encourage students to find a medium through which they can express themselves. It is by educating children in music that we will become better at communicating sustainability problems.
9. Most new construction sites focus on designing with environmental impact in mind. This ideology has not found as much support pertaining to older structures however. Governmental incentives should be provided to homeowners and small business owners, for the purpose of making efficiency improvements such as replacing old windows with thermally insulated ones.

10. Federal funding for education should include separate appropriations for the express purpose of providing well-written peer reviewed articles to students. Subscribing to peer-reviewed articles is one way of ensuring quality information is being provided to students.

13) [339 Words]: Sustainability education is of utmost importance in order to develop literacy in the subject area. A big part of that education is learning the importance of asking questions. For example, if one were teaching a class of high school students about fracking in New York State it would be imperative to make sure that the topic was fully covered.

The first part of literacy is determining the stakeholders, and how each one is affected. It follows then, that students would be encouraged to ask who owns the land. Who lives near the land? What water sources are present near the fracking site, and to where do they flow? Asking these questions will help develop a big-picture idea of who has an interest in the fracking.

Next is the importance of data collection. Once the stakeholders are determined, how each one is affected is also important. For example, you may want to ask how much money the land owner stands to make by fracking on his/her land. You want to learn about the effects of fracking on local ecosystems. This includes asking what chemicals hydraulic fracturing introduces into the water, as well as determining what effects those chemicals have on the human body as well as other animals living near the affected zone. It is advisable to find out what effect fracking has on local economies in both the short and long term. Ultimately, it is wise to ask questions of the questions. One should make as sure as possible, that every pertinent question is being asked which needs to be, and that these questions are themselves questioned in an effort to determine why it is something worth focusing on.

But perhaps of paramount importance, is the idea of questioning where the media is coming from. Not every Wikipedia article or '.gov' site is accurate. Likewise, not every peer-reviewed paper is 100% fact. It may be truthful to the best of someone's knowledge, but there also may be information which is unknown about the topic, making the data technically inaccurate.

17) [348 Words]: Gus Courtsunis was born on August 15, 1991 in Newburgh, New York. He is the son of Christine, a high school teacher, and John, a local confectioner. At the age of 7 he began taking piano lessons but stopped only a few years later because of insecurities arising from his brother's superior talent. Picking up the drums at 9, Gus continued to play music throughout his school years, playing in various wind, jazz, and percussion ensembles. In his high school percussion ensemble Gus was introduced to Jeff Haynes, former percussionist for artists including Cassandra Wilson and Pat Metheny.

Upon graduating high school, he used a gap year to work for his father and tour around New York State with Haynes. After his gap year, Gus continued on to Rensselaer Polytechnic Institute where he earned a Bachelor's degree in Mechanical Engineering in 2014. While at Rensselaer he performed regularly with a group of students and alumnae of RPI, under the direction of Dr. Eddie Ade Knowles. During the Fall of 2012 Gus studied abroad at the Technical University of Denmark in Kongens Lyngby, Denmark. This experience helped further form his views of the U.S. through a foreign lens.

After graduating, Gus began working for Corning as an MTE engineer, where he stayed for 5 years. During this time he picked up real-world practice in manufacturing and robotic material handling systems. Gus became increasingly frustrated with the bureaucratic work environment, yearning for a more liberated career path. Using starting capital he saved from working at Corning Inc., Gus bought the property where he currently lives. He has established a school on this property, for the purpose of educating children about farming, and general sustainability literacy. The school is self-sufficient, in that all of its food is grown on the campus, and cooked by members of staff.

In his spare time Gus writes novels and records music. His literary works include critiques of modern society, as well as guidelines for living with a sustainability mind. Gus still explores the engineering side of his talents, improving machine designs and in general, tinkering.

21) [349 Words]: I understand that some may find this news saddening, and perhaps even angering. It is my hope however to encourage you as parents and taxpayers, that furthering the sustainability education of our children is of paramount importance.

In order to avoid unfounded biases in the content, all teachers responsible for sustainability material will be required to pass competency exams to ensure they are aware, in detail, of the big picture problems at hand. Educators will help your children develop an inquisitive, not accusative approach to sustainability problems. Students will be encouraged to ask questions about the material they are being taught. The approach will follow the principle of a *matrix of factors*, teaching the importance of knowing how a system comes together to effect environmental change.

Some parents may disagree with the belief that climate change is occurring, and this is OK. We encourage asking such questions. We also encourage unbiased fact checking as well. We hope to give your students the tools to do both.

Some of you may be asking yourselves why we would be teaching content that is still so highly contested. The answer to this is two-fold. In other globally important economies, children are learning about sustainability education. This is interwoven into their schooling, and these countries are having a decreased footprint as a result. We hope to achieve the same goal here. Additionally, we feel that regardless of whether or not climate change is occurring, it is far better to act proactively, then watch from the sidelines in the hopes that naysayers are right. If we educate our children under the assumption that climate change is not occurring, then nothing is lost if climate change is a non-issue. On the reverse side, if climate change proves to be an issue worth discussing and we fail to do so, future generations will see far more suffering and quality of life issues than we can currently fathom. We must therefore take a proactive role in being concerned for our environment, in the hopes that our environment will continue to be able to take care of us.

23) [393 Words]: Education in the 21st century must continue to incorporate principle of the sustainability movement. Specifically, students need to be able to ask intelligent questions about the material they are learning. Students must not find comfort in convenient answers or solutions that seem right, but rather need to question everything they learn. Children also must learn how to recognize if there is an existing sustainability problem that must be addressed. As important as being

able to learn about a sustainability problem is, one must first be identified. Finally, students should learn to hunt for, and implement solutions for environmental issues wherever possible.

In order to promote productive questioning, students should be encouraged to find a sustainability problem of their choosing, to focus on and analyze completely. Such a project should not be a one-time submission, but rather it should involve discussing with the teacher about progress made. The goal is to have students pick up their own understanding of how to properly ask a question, with regular, monitored feedback. A one-time submission will not suffice, as it does not give the student regular enough feedback, to know whether he or she has the correct idea.

Weekly journaling should be encouraged as a method of internally expressing one's thoughts. This can also provide the medium for students to think about non-trivial sustainability problems, and to feel out their own ability to recognize and analyze problems. A task like this will work better for some students than others, and certainly everyone will be learning at their own pace. This will promote individuality, and reaffirm questioning as a productive method of education.

In order to pique students' interests in implementing real-world solutions, a class should have a collective semester project, or semester long responsibility to the environment which the teacher may help to moderate. For example, a semester project for a class may include designing and building a community garden for the students in the school. This provides the real-world experience to show kids that being sustainably minded isn't a far-reaching goal, but is fun, challenging, and extremely rewarding.

While the above approach differs slightly from the EcoEd literacy goals, the basic principles are still there. This above approach focuses less on explicitly teaching the existence of a *matrix of factors*, but instead provides the real-world experience for students to realize the presence of such a matrix.